EN12101-2:2003

UKCA Certified NSHEV Solutions

SE CONTROLS

NEOS PROTECT LTD

11/2025 – Rev D

UKCA Creating a **Healthier** & **Safer** Environment

1 Neos Protect SE Controls NSHEV

It is a mandatory requirement under the Construction Products Regulations (Regulation (EU) No 305/2011) for Natural Smoke and Heat Exhaust Ventilators (NSHEVs) to be UKCA certified as conforming to the Designated Standard EN12101-2:2003.

Neos Protect and SE Controls have collaborated on an extensive test and certification program with IFCC, a UK Notified Body (Notified Body Nr. 1720) to meet this requirement and ensure a seamless façade installation and performance can be provided.

The following Neos Protect frame systems can be certified under SE Controls' Tested Solutions program.

Frame System	Applications	Refer to
Neos Protect Door	Side Hung, Open Out	Section 4.1

2 Manufacturing

Prior to manufacturing an NSHEV it is important to seek guidance from SE Controls to ensure the NSHEV is manufactured under an annually audited EN12101-2 System 1 Factory Production Control process.

It is mandatory this is in place before manufacturing. For more information please contact Façade.technical@secontrols.com

If an NSHEV is not manufactured under an EN12101-2 System 1 Factory Production Control process the product will not be certifiable by SE Controls.

3 Certification

3.1 Essential Characteristics declared on the SE Controls NSHEV Declaration of Performance (DoP) as defined by EN12101-2:2003 Annex ZA.1.

CCP 1720-CPR-0291		
Essential Characteristics	**Clauses in This European Standard**	**Mandated Level(s) or Class(es)**
Nominal Activation Conditions/sensitivity	4.1 4.2	b) 24V dc.
Response relay (Time relay)	7.1.2	<60s
Operational Reliability	7.1 7.4	Re 1000 + 10000 (Dual Purpose) NPD
Effectiveness of smoke/hot gas extraction	6.	Pass
Aerodynamic free area	6.	Pass
Performance parameters under fire conditions	7.5	B300
Resistance to fire – Mechanical stability	7.5	$B_{300}30$
Ability to open under environmental conditions	7.2 7.3	SL0 T(00)
Fire reaction	7.5.2.1	NPD

"PASS"; Each NSHEV will have a specific aerodynamic free area based upon its dimensions, opening angle and applicable coefficient of discharge (Cv) of between 0.32 and 0.62.

The Neos Protect Steel Door Tested Solution has been independently tested to STS202.

3.2 Factory Production Control

The vent is manufactured, the actuator installed and the NSHEV completed under SE Controls' System 1 Factory Production Control (FPC) process, audited by the Notified Body, IFCC in accordance with the requirements of the Construction Products Regulation *(EU) No 305/2011* and EN12101-2:2003 product standard.

The Certificate of Constancy of Performance (CoCoP) issued by IFCC and Declaration of Performance (DoP) issued by SE Controls confirms the audited system 1 FPC process is in place.

The NSHEV is certified and placed upon the market by SE Controls in the capacity of the manufacturer.

4 Neos Protect SE Controls NSHEV Certifiable Parameters

4.1 Neos Protect Door

Orientation	Maximum Outer Frame Width	Maximum Outer Frame Height	Minimum Outer Frame Width	Minimum Outer Frame Height	Maximum Outer Frame Weight	Hinges	Actuator
Side Hung	1200mm	2500mm	900mm	1500mm	180KG	555.060 3D Hinge	SECO Ni 24 40 Folding Arm Actuator

Any make up of double-glazed unit or triple-glazed unit can be assessed providing the weight of the vent remains within maximum weight limitation stated above.

Infill panels must have minimum classification certificates for combustibility and achieve Class A2,S1-d0 under EN13501-1. The panels must also be compatible with the System Company profiles (glazing clips etc.). Unless specifically tested as a combination, Reaction to Fire will be declared as NPD on the Declaration of Performance. Please contact façade.technical@secontrols.com for more information.

2 No. Electro-magnetic locks part number HQMAG 5000S, and 1 No. door closer ITS96 should be used per AOV in conjunction with the Neos Protect Technical Manual for this profile.

4.3 Sash/Frame Combinations

Frame Reference	Sash Reference	Prep Detail Reference
680.013Z	680.114Z	SEF_2693
680.416Z	680.114Z	SEF_2741

Contact Neos Protect for access to their technical manual.

*Neos Protect Door can be used on a Podium Level, Ground Floor and Pedestrian Access, please contact Neos Protect for further details.

The information provided in this document must be used in conjunction with the Neos Protect Technical Manual.

5 System Design and Installation Considerations

5.1 Free Area

The free area essential characteristic of an NSHEV is declared on the Declaration of Performance as “Aerodynamic Free Area”. Often building codes do not specify aerodynamic free areas, but instead require a Geometric Free Area (e.g., 1.5m^2) and the two methods should not be confused.

A Geometric Free Area will be larger than the Aerodynamic Free Area for the same NSHEV, but they are not directly comparable.

Refer to the applicable design standard BS 9991:2024 (Section 20.1. Table 3 - Summary of Smoke Control Provisions)

Top Of stair Vent for a building below 11 meters tall: 0.7m² (Aerodynamic Free Area)

Top Of stair Vent for a building above 11 meters tall: 0.7m² (Aerodynamic Free Area)

Lobby / Corridor vent for a building above 11 meters tall: 0.9m² (Aerodynamic Free Area)

5.2 Controls

NSHEVs must be operated by a compatible EN12101-10 compliant control system; SE Controls recommends its OS series of control systems.

5.3 Safety: Entrapment Protection

Consideration should be given to the installation of suitable measures to mitigate the risks of entrapment.

NSHEVs should be closed/ reset via a local Manual Control Point (MCP) with a ‘biased off principle’*, or alternative safety measures/ operational procedures should be considered.

*Smoke Control Association: Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (Flats and Maisonettes) Revision 3.1: July 2020

For advice on further safety considerations contact SE Controls.

5.4 Safety: Fall Restraint

Consideration should be given to the installation of suitable measures to mitigate the risks of falling through an NSHEV.

For advice on additional window restraint options contact SE Controls.

5.5 Installation & Maintenance

A smoke ventilation system should be designed, installed and maintained by a suitably competent and trained smoke ventilation specialist.

6 Support

Contact the SE Controls Technical Façade Team – Façade.technical@secontrols.com

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